

**COMPUTER SYSTEM, METHOD, AND PROGRAM PRODUCT FOR  
GENERATING A DATA STRUCTURE FOR INFORMATION RETRIEVAL,  
AND AN ASSOCIATED GRAPHICAL USER INTERFACE**

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**ABSTRACT**

A computer system for generating data structures for information retrieval of documents stored in a database. The computer system includes: a neighborhood patch generation system for defining patch of nodes having predetermined similarities in a hierarchy structure. The neighborhood patch generation subsystem includes a hierarchy generation subsystem for generating a hierarchy structure upon the document-keyword vectors and a patch definition subsystem. The computer system also comprises a cluster estimation subsystem for generating cluster data of the document-keyword vectors using the similarities of patches.